Sprint 1

Python code

Code to get sensor values:

```python
import random

import time

import sys

import ibmiotf.application

import ibmiotf.device


# Provide your IBM Watson Device Credentials

organization = "l0cmny"  # repalce it with organization ID

deviceType = "raspberrypi"  # replace it with device type

deviceId = "ABCD"  # repalce with device id

authMethod = "token"

authToken = "12345678"  # repalce with token


def myCommandCallback(cmd):

    print("Command received: %s" % cmd.data['command'])

    status=cmd.data['command']

    if status == 'motoron':

        print("MOTOR ON")

    elif status == 'motoroff':

        print("MOTOR OFF")


try:

    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod,

                "auth-token": authToken}
```

```python
    deviceCli = ibmiotf.device.Client(deviceOptions)
    # ...........................................
except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()
deviceCli.connect()
while True:
    pH = random.randint(0,100)
    conductivity = random.randint(0,100)
    T = random.randint(0,100)
    oxygen = random.randint(0,100)
    turbidity = random.randint(0,100)


    # Send Temperature & Humidity to IBM Watson
    data = {'temperature':
T,'ph':pH,'conductivity':conductivity,'oxygen':oxygen,"turbidity":turbidity}


    # print data
    def myOnPublishCallback():
        print("Published data",data, "to IBM Watson")
    success = deviceCli.publishEvent("event", "json", data, 0, myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
    time.sleep(5)
    deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

Output :

Published data {'temperature': 78, 'ph': 94, 'conductivity': 66, 'oxygen': 33, 'turbidity': 1} to IBM Watson
Published data {'temperature': 77, 'ph': 32, 'conductivity': 93, 'oxygen': 22, 'turbidity': 12} to IBM Watson
Published data {'temperature': 82, 'ph': 45, 'conductivity': 47, 'oxygen': 6, 'turbidity': 9} to IBM Watson
Published data {'temperature': 3, 'ph': 30, 'conductivity': 81, 'oxygen': 81, 'turbidity': 96} to IBM Watson
Published data {'temperature': 40, 'ph': 38, 'conductivity': 64, 'oxygen': 91, 'turbidity': 88} to IBM Watson
Published data {'temperature': 64, 'ph': 89, 'conductivity': 70, 'oxygen': 97, 'turbidity': 46} to IBM Watson
Published data {'temperature': 21, 'ph': 71, 'conductivity': 60, 'oxygen': 18, 'turbidity': 17} to IBM Watson
Published data {'temperature': 31, 'ph': 44, 'conductivity': 94, 'oxygen': 66, 'turbidity': 98} to IBM Watson
Published data {'temperature': 15, 'ph': 96, 'conductivity': 80, 'oxygen': 33, 'turbidity': 27} to IBM Watson
Published data {'temperature': 47, 'ph': 18, 'conductivity': 46, 'oxygen': 77, 'turbidity': 68} to IBM Watson
Published data {'temperature': 11, 'ph': 33, 'conductivity': 20, 'oxygen': 23, 'turbidity': 64} to IBM Watson
Published data {'temperature': 87, 'ph': 94, 'conductivity': 2, 'oxygen': 68, 'turbidity': 73} to IBM Watson
Published data {'temperature': 44, 'ph': 12, 'conductivity': 28, 'oxygen': 64, 'turbidity': 22} to IBM Watson
Published data {'temperature': 68, 'ph': 57, 'conductivity': 75, 'oxygen': 98, 'turbidity': 100} to IBM Watson
Published data {'temperature': 34, 'ph': 1, 'conductivity': 10, 'oxygen': 66, 'turbidity': 44} to IBM Watson
Published data {'temperature': 24, 'ph': 1, 'conductivity': 100, 'oxygen': 96, 'turbidity': 44} to IBM Watson
Published data {'temperature': 5, 'ph': 61, 'conductivity': 21, 'oxygen': 72, 'turbidity': 50} to IBM Watson
Published data {'temperature': 28, 'ph': 86, 'conductivity': 83, 'oxygen': 75, 'turbidity': 21} to IBM Watson
Published data {'temperature': 7, 'ph': 50, 'conductivity': 25, 'oxygen': 2, 'turbidity': 45} to IBM Watson
Published data {'temperature': 76, 'ph': 19, 'conductivity': 80, 'oxygen': 79, 'turbidity': 35} to IBM Watson
Published data {'temperature': 87, 'ph': 8, 'conductivity': 51, 'oxygen': 75, 'turbidity': 86} to IBM Watson
Published data {'temperature': 44, 'ph': 17, 'conductivity': 57, 'oxygen': 94, 'turbidity': 75} to IBM Watson
Published data {'temperature': 69, 'ph': 49, 'conductivity': 40, 'oxygen': 79, 'turbidity': 69} to IBM Watson
Published data {'temperature': 98, 'ph': 15, 'conductivity': 83, 'oxygen': 4, 'turbidity': 47} to IBM Watson
Published data {'temperature': 53, 'ph': 8, 'conductivity': 73, 'oxygen': 62, 'turbidity': 22} to IBM Watson
Published data {'temperature': 22, 'ph': 36, 'conductivity': 52, 'oxygen': 27, 'turbidity': 65} to IBM Watson
Published data {'temperature': 94, 'ph': 83, 'conductivity': 23, 'oxygen': 40, 'turbidity': 64} to IBM Watson
Published data {'temperature': 8, 'ph': 31, 'conductivity': 75, 'oxygen': 5, 'turbidity': 3} to IBM Watson
Published data {'temperature': 56, 'ph': 34, 'conductivity': 37, 'oxygen': 26, 'turbidity': 63} to IBM Watson
Published data {'temperature': 67, 'ph': 94, 'conductivity': 80, 'oxygen': 17, 'turbidity': 54} to IBM Watson
Published data {'temperature': 69, 'ph': 27, 'conductivity': 2, 'oxygen': 45, 'turbidity': 8} to IBM Watson
Published data {'temperature': 19, 'ph': 16, 'conductivity': 92, 'oxygen': 100, 'turbidity': 84} to IBM Watson
Published data {'temperature': 61, 'ph': 57, 'conductivity': 76, 'oxygen': 99, 'turbidity': 98} to IBM Watson
Published data {'temperature': 5, 'ph': 79, 'conductivity': 30, 'oxygen': 2, 'turbidity': 71} to IBM Watson
Published data {'temperature': 1, 'ph': 19, 'conductivity': 89, 'oxygen': 32, 'turbidity': 23} to IBM Watson
Published data {'temperature': 85, 'ph': 85, 'conductivity': 21, 'oxygen': 40, 'turbidity': 55} to IBM Watson
Published data {'temperature': 11, 'ph': 30, 'conductivity': 20, 'oxygen': 69, 'turbidity': 54} to IBM Watson
Published data {'temperature': 82, 'ph': 64, 'conductivity': 97, 'oxygen': 98, 'turbidity': 9} to IBM Watson
Published data {'temperature': 19, 'ph': 17, 'conductivity': 46, 'oxygen': 93, 'turbidity': 12} to IBM Watson
Published data {'temperature': 95, 'ph': 10, 'conductivity': 87, 'oxygen': 94, 'turbidity': 48} to IBM Watson